AMENDMENTS TO CLAIMS

This Listing of Claims replaces all previous listings, and versions, of claims in the application.

Listing Of Claims

1.   (currently amended) A surveillance system having at least one camera adapted to produce an IP signal, the IP signal being transmitted over an IP network, the system comprising:

the at least one camera having an image collection device configured for collecting image data;

~~;~~ the at least one camera having an analog to digital converter in communication with the image collection device for converting collected image data from analog format to digital format image data;

~~,~~ the at least one camera having at least one facial processor in communication with the analog to digital converter for receiving the digital format image data, the at least one facial processor being configured to execute with the digital format image data at least one facial recognition algorithm, execution of the at least one facial recognition algorithm with the digital format image data detecting faces when present in the digital format image data, execution of the at least one facial recognition algorithm providing for each detected face at least one set of unique facial image data;

~~,~~ the at least one camera having at least one compressor in communication with the analog to digital converter for receiving the digital format image data, the at least one compressor being configured to execute with the digital format image data at least one compression algorithm, execution of the at least one compression algorithm with the digital format image data providing at least one set of compressed image data;

~~,~~ the at least one camera having a network protocol stack, the network protocol stack being configured for transmitting to the IP network for each detected face the at least one set of unique facial image data, the network protocol stack being configured for transmitting to the IP network the at least one set of compressed image data; and

at least one facial signature processor in communication with the IP network, the at least

one facial signature processor being remote from the at least one camera, the at least one facial signature processor being configured to receive from the IP network for each detected face the at least one set of unique facial image data, the at least one facial signature processor being in communication with at least one facial recognition database, the at least one facial signature processor being configured to compare with the at least one facial recognition database the at least one set of unique facial image data of each detected face;

wherein the at least one set of unique facial image data for each detected face is provided from the at least one camera to the IP network, such that the at least one set of unique facial image data of each detected face is received by the at least one facial signature processor to be compared with the at least one facial recognition database without preceding transmission of the digital format image data from the at least one camera over the IP network.

2.   (previously presented)   The system of claim 1, further comprising:
a server in communication with the IP network, the server being remote from the camera, the server receiving the at least one set of unique facial image data for each detected face.

3.   (previously presented)   The system of claim 2 and further comprising:
the server being in communication with the at least one facial image database, the server being in communication with the at least one facial signature processor, the at least one facial signature processor being configured to compare the at least one set of facial image data with the at least one facial image database.

4.   (previously presented)   The system of claim 1 and further comprising:
the at least one facial recognition algorithm including at least one facial separation algorithm, the at least one facial separation algorithm when executed producing at least one set of facial separation data, the at least one set of facial image data including the at least one set of facial separation data.

5.   (previously presented)   The system of claim 1 and further comprising:
a plurality of cameras in communication with the IP network for collecting image data at

distributed locations.

6. (previously presented) The system of claim 5 and further comprising:
a server in communication with the IP network, the server being remote from the plurality of cameras, the server receiving from each camera respective of the at least one set of <u>unique</u> facial image data of each detected face.

7. (canceled) The system of claim 2 and further comprising:
the server being in communication with at least one facial image database, the server being in communication with at least one facial signature processor, the at least one facial signature processor being operable to compare each of the at least one set of facial image data with the at least one facial image database.

8. (previously presented) The system of claim 2 and further comprising:
the server being in communication with a third party database for at least one of:
    sending, receiving, and both sending and receiving facial image data to a third party.

9. (previously presented) The system of claim 1 and further comprising:
a remote station in communication with the IP network, the remote station receiving the at the at least one set of compressed image data, the remote station being configured to display the at least one set of compressed image data.

10. (previously presented) The system of claim 9 and further comprising:
the remote station receiving the at least one set of unique facial image data of each detected face, the remote station being in communication with at least one facial image database, the remote station being in communication with at least one facial signature processor, the at least one facial signature processor being configured to compare the at least one set of unique facial image data of each detected face with the at least one facial image database, the remote station being configured to display a result provided by the at least one facial image processor.

11.   (previously presented) The system of claim 9 and further comprising:
wherein the remote station includes at least one of:
a desktop computer, a portable computer, a PDA, and a wireless device.

12.   (canceled) The system of claim 1, wherein the remote station is a laptop computer.

13.   (previously presented) The system of claim 1 and further comprising:
an access control device in communication with the IP network, the access control device being
responsive to an activation signal, the control device being activated upon confirmation of
identity between the at least one set of facial image data and data in a facial image database.

14.   (previously presented) The system of claim 9 and further comprising:
the remote station further including a system map database and a display monitor for displaying
the system map, the system map including an icon for identifying the location of the camera.

15.   (previously presented) The system of claim 14 and further comprising:
a plurality of cameras in communication with the IP network, the remote station displaying an
identifying icon for each of said cameras.

16.   (previously presented) The system of claim 15 and further comprising:
a tracking system in communication with the remote station for tracking the progress of an
individual as he moves from a field of view of a camera to a field of view of a subsequent
camera.

17.   (previously presented)   The system of claim 2 and further comprising:
a storage device in communication with the IP network for archiving archival data, the archival
data including least one of:
        the at least one set of facial image data and the at least one set of compressed image data.

18.   (previously presented) The system of claim 17 and further comprising:

a data mining system in communication with the IP network for mining the archival data.

19.   (currently amended) A surveillance camera adapted to be connected to an internet protocol network, the surveillance camera comprising:

an image collection device, the image collection device being configured to collect image data;

at least one analog to digital converter in communication with the image collection device for converting collected image data from analog format to digital format image data;

at least one facial processor in communication with the analog to digital converter to receive the digital format image data;

at least one facial recognition algorithm embodied in suitable media, the at least one facial recognition algorithm being executable with the digital format image data by the at least one facial processor, execution of the at least one facial recognition algorithm with the digital format image data detecting faces when present in the digital format image data, execution of the at least one facial recognition algorithm producing for each detected face at least one set of unique facial image data, the at least one facial recognition algorithm including at least one facial separation algorithm, execution of the at least one facial separation algorithm with the digital format data producing at least one set of facial separation data corresponding to the digital format image data, the at least one facial recognition algorithm including at least one facial signature algorithm;

the at least one facial processor being in communication with at least one facial signature database to obtain from the at least one facial signature database a plurality of sets of reference facial separation data, execution of the at least one facial signature algorithm comparing the at least one set of facial separation data and the plurality of sets of reference facial separation data to identify correlations between the at least one set of facial separation data and the plurality of sets of reference facial separation data;

at least one compression algorithm embodied in suitable media, the at least one compression algorithm being executable with the digital format image data by at least one compressor, execution of the at least one compression algorithm producing at least one set of compressed image data; and

a network stack in communication with the at least one compressor, the network stack being configured to transmit to the internet protocol network the at least one set of unique facial image data for each detected face the network stack being configured to transmit to the internet protocol network the at least one set of compressed image data.

20. (currently amended) A camera according to claim 19 and further comprising:

a housing, the housing commonly supporting the image collection device, the at least one analog to digital converter, the at least one facial recognition algorithm, the at least one facial processor, the at least one compression algorithm, the at least one compressor, and the internet protocol network stack.

21. (canceled) A camera according to claim 19 and further comprising:

the at least one facial recognition algorithm including at least one facial separation algorithm, execution of the at least one facial separation algorithm with the digital format data producing at least one set of facial separation data corresponding to the digital format image data.

22. (canceled) A camera according to claim 21 and further comprising:

the at least one facial recognition algorithm including at least one facial signature algorithm;

the at least one facial processor being in communication with at least one facial signature database to obtain from the at least one facial signature database a plurality of sets of reference facial separation data, execution of the at least one facial signature algorithm comparing the at least one set of facial separation data and the plurality of sets of reference facial separation data to identify correlations between the at least one set of facial separation data and the plurality of sets of reference facial separation data.

23. (currently amended) A camera according to claim 22 19 and further comprising:

wherein the at least one facial signature database is stored in local media, the local media being located in the camera.

24. (currently amended) A camera according to claim ~~22~~ 19 and further comprising:

wherein the at least one facial signature database is stored in remote media at a location remote from the camera, the remote media being in communication with the internet protocol network, the plurality of sets of reference facial separation data being provided from the remote media to the camera over the internet protocol network.

25. (previously presented) A camera according to claim 19 and further comprising:

the at least one set of compressed image data including at least one set of low resolution compressed image data having a respective low resolution and at least one set of high resolution compressed image data having a respective high resolution, the low resolution being less than the high resolution.

26. (previously presented) A camera according to claim 25 and further comprising:

the at least one set of low resolution compressed image data including MPEG data, the at least one set of high resolution compressed image data including JPEG data.

27. (previously presented) A camera according to claim 19 and further comprising:

the network stack transmitting a portion of the at least one set of compressed image data according to multicast protocol.

28. (previously presented) A camera according to claim 25 and further comprising:

the network stack transmitting the at least one set of low resolution compressed image data according to multicast protocol.

29. (previously presented) A camera according to claim 28 and further comprising:

the network stack transmitting the at least one set of high resolution compressed image data according to one of: multicast protocol and unicast protocol.

30. (previously presented)   A camera according to claim 26 and further comprising:

the network stack transmitting the at least one set of low resolution compressed image data including MPEG data according to multicast protocol, the network stack transmitting the at least one set of high resolution compressed image data including JPEG data according to one of: multicast protocol and unicast protocol.

31.   (currently amended) ~~A camera according to claim 21 and further comprising:~~ A surveillance camera adapted to be connected to an internet protocol network, the surveillance camera comprising:

an image collection device, the image collection device being configured to collect image data;

at least one analog to digital converter in communication with the image collection device for converting collected image data from analog format to digital format image data;

at least one facial processor in communication with the analog to digital converter to receive the digital format image data;

at least one facial recognition algorithm embodied in suitable media, the at least one facial recognition algorithm being executable with the digital format image data by the at least one facial processor, execution of the at least one facial recognition algorithm with the digital format image data detecting faces when present in the digital format image data, execution of the at least one facial recognition algorithm producing for each detected face at least one set of unique facial image data, the at least one facial recognition algorithm including at least one facial separation algorithm, execution of the at least one facial separation algorithm with the digital format data producing at least one set of facial separation data corresponding to the digital format image data;

at least one compression algorithm embodied in suitable media, the at least one compression algorithm being executable with the digital format image data by at least one compressor, execution of the at least one compression algorithm producing at least one set of compressed image data; and

a network stack in communication with the at least one compressor, the network stack being configured to transmit to the internet protocol network the at least one set of unique facial image data for each detected face the network stack being configured to transmit to the internet

protocol network the at least one set of compressed image data;

the network stack transmitting the at least one set of facial separation data according to multicast protocol to a remote recipient, the remote recipient being in communication with the internet protocol network, the remote recipient being in communication with at least one remote facial signature processor, the at least one remote facial signature processor being associated with suitable media embodying at least one facial signature algorithm, the at least one remote facial signature processor being configured to execute the at least one facial signature algorithm, the at least one remote facial signature processor being in communication with at least one facial signature database to obtain from the at least one facial signature database a plurality of sets of reference facial separation data, the at least one facial signature algorithm when executed comparing the at least one set of facial separation data and the plurality of sets of reference facial separation data to identify correlations between the at least one set of facial separation data and the plurality of sets of reference facial separation data.

32.   (currently amended) A surveillance camera adapted to be connected to an internet protocol network, the surveillance camera comprising:

an image collection device, the image collection device being configured to collect image data of a field of view, the image collection device providing digital format image data;

at least one processor in communication with an image collection device to receive the digital format image data;

at least one facial recognition algorithm embodied in suitable media, the at least one facial recognition algorithm being executable with the digital format image data by the at least one facial processor, execution of the at least one facial recognition algorithm detecting faces when present in the digital image format data, execution of the at least one facial recognition algorithm producing at least one set of unique facial image data for each detected face, the at least one facial recognition algorithm including at least one facial separation algorithm, execution of the at least one facial separation algorithm with the digital format data producing at least one set of facial separation data corresponding to the digital format image data, the at least one facial recognition algorithm including at least one facial signature algorithm;

the at least one facial processor being in communication with at least one facial signature

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database to obtain from the at least one facial signature database a plurality of sets of reference facial separation data, execution of the at least one facial signature algorithm comparing the at least one set of facial separation data and the plurality of sets of reference facial separation data to identify correlations between the at least one set of facial separation data and the plurality of sets of reference facial separation data; and

a network stack in communication with the at least one facial processor, the network stack being configured to transmit the at least one set of unique facial image data of each detected face to the internet protocol network from the surveillance camera.

33.   (previously presented)   A camera according to claim 32 and further comprising:

at least one compression algorithm embodied in suitable media, the at least one compression algorithm being executable with the digital format image data by at least one compressor, execution of the at least one compression algorithm producing at least one set of compressed image data;

the network stack being configured to transmit the at least one set of compressed image data to the internet protocol network.

34. (previously presented) A camera according to claim 32 and further comprising:

a housing, the image collection device, the at least one facial recognition algorithm, the at least one facial processor, the at least one compression algorithm, the at least one compressor and the internet protocol network stack.

35. (canceled) A camera according to claim 32 and further comprising:

the at least one facial recognition algorithm including at least one facial separation algorithm, execution of the at least one facial separation algorithm with the digital format data producing at least one set of facial separation data corresponding to the digital format image data.

36. (canceled) A camera according to claim 35 and further comprising:

the at least one facial recognition algorithm including at least one facial signature

algorithm;

the at least one facial processor being in communication with at least one facial signature database to obtain from the at least one facial signature database a plurality of sets of reference facial separation data, execution of the at least one facial signature algorithm comparing the at least one set of facial separation data and the plurality of sets of reference facial separation data to identify correlations between the at least one set of facial separation data and the plurality of sets of reference facial separation data.

37. (previously presented) A camera according to claim 32 and further comprising:

the at least one set of compressed image data including at least one set of low resolution compressed image data having a respective low resolution and at least one set of high resolution compressed image data having a respective high resolution, the low resolution being less than the high resolution.

38. (previously presented) A camera according to claim 37 and further comprising:

the at least one set of low resolution compressed image data including MPEG data, the at least one set of high resolution compressed image data including JPEG data.

39. (previously presented) A camera according to claim 32 and further comprising:

the network stack transmitting a portion of the at least one set of compressed image data according to multicast protocol.

40. (previously presented) A camera according to claim 37 and further comprising:

the network stack transmitting the at least one set of low resolution compressed image data according to multicast protocol.